

## REMARKS

Claims 1, 3-9, 12-16 and 19-25 are pending in the application. Claims 1 and 8 are amended herein to recite a stack of fine crystals constituting the columnar crystals, as supported by paragraphs [0018], [0083] and other sections of the specification. Claim 15 is amended herein to remove the word "substantial" and to change the dependency from claim 12 to claim 8. Claim 19 is amended herein to provide consistency of the claim terminology in view of the amendment herein to claim 8, from which claim 19 depends. Claims 11, 17, and 18 have been cancelled. Claim 25 is new, and is supported by the specification at least in paragraph [0090]. No new matter has been added.

### Rejections Under 35 U.S.C. § 112

The Examiner asserted that claims 15-16 are indefinite under 35 U.S.C. § 112, second paragraph. Claim 15 is amended herein to remove the term "substantial" to overcome this rejection.

In regard to claim 16, Applicants respectfully disagree with the Examiner's assertion that "'the scope of substantially sulfur-free' (or any of the equivalent terms argued by Applicants) is not clear and definite." Applicants have described in the present specification the desirability of producing a film which is free from impurities, e.g., sulfur. As one of ordinary skill in the art would know, even films considered to be free from impurities contain some infinitesimal, nonzero amount of impurity elements. Thus, the language "substantially sulfur-free" is not indefinite. The use of the term "substantially" is acceptable in claim language. See MPEP 2173.05(b). The Federal Circuit has recognized this and has held (*Verve, LLC v. Crane Cams, Inc. et al.*, 311 F.3d 1116 (Fed. Cir. 2002)) that:

Expressions such as "substantially" are used in patent documents when warranted by the nature of the invention, in order to accommodate the minor variations that may be appropriate to secure the invention. Such usage may well satisfy the charge to "particularly point out and distinctly claim" the invention, 35 U.S.C. §112, and indeed may be necessary in order to provide the inventor with the benefit of his invention. In *Andrew Corp. v. Gabriel Elecs. Inc.*, 847 F.2d 819, 821-22, 6 USPQ2d 2010, 2013 (Fed. Cir. 1988) the court explained that usages such as "substantially equal" and "closely approximate" may serve to describe

the invention with precision appropriate to the technology and without intruding on the prior art. The court again explained in *Ecolab Inc. v. Envirochem, Inc.*, 264 F.3d 1358, 1367, 60 USPQ2d 1173, 1179 (Fed. Cir. 2001) that "like the term 'about,' the term 'substantially' is a descriptive term commonly used in patent claims to 'avoid a strict numerical boundary to the specified parameter,'" quoting *Pall Corp. v. Micron Separations, Inc.*, 66 F.3d 1211, 1217, 36 USPQ2d 1225, 1229 (Fed. Cir. 1995). (Emphasis added.)

Applicants therefore respectfully request that the Examiner withdraw the rejection under 35 U.S.C. § 112, second paragraph, to claim 16.

### **Rejections Under 35 U.S.C. § 102**

The Examiner asserted that claims 1, 6, 7 and 11 are anticipated by Kamiguchi et al. ("Kamiguchi," U.S. Patent Appl. No. 2002/0009616 A1) under 35 U.S.C. § 102(a) and/or 102(e).

The Examiner also asserted that claims 1, 6, 11 and 21 are anticipated by Hiramoto et al. (U.S. Patent No. 5,849,400) under 35 U.S.C. § 102(b).

The Examiner further asserted that claims 1, 6, and 11 are anticipated by Funayama et al. (U.S. Patent Appl. No. 2003/0197982 A1) under 35 U.S.C. § 102(e).

Applicants respectfully disagree, at least in view of the amendment herein to independent claim 1. Claims 6, 7, and 21 depend from claim 1. Claim 11 is cancelled.

As amended, claim 1 requires that a stack of fine crystals constitute the columnar crystals. This amendment finds support in the specification in numerous places, including paragraphs [0018], [0080], [0083], [0101], [0145], [0146], and [0150]. As recited in the specification, "it is believed that each columnar crystal is formed by the piling up of microcrystals" during the electroplating process when an appropriate amount of malonic acid is added to the plating bath. None of the references cited by the Examiner discloses a Co-Fe magnetic film comprising columnar crystals which have as constituents *a stack of fine crystals*, as recited by amended claim 1. Since none of the cited references teach or suggest such a film structure, none of the references can anticipate claim 1 or any claims depending therefrom.

Applicants therefore respectfully request that the Examiner withdraw the rejections under 35 U.S.C. §102 to the claims.

### **Rejections Under 35 U.S.C. § 103**

The Examiner asserted that claims 3-5 and 22 are unpatentable over Hiramoto et al. in view of Sasaki et al. (U.S. Patent Appl. No. 2003/0206369 A1) under 35 U.S.C. § 103(a). The Examiner also asserted that claims 3-5 are unpatentable over Funayama et al. in view of Sasaki ('369 A1).

The Examiner asserted that claim 7 is unpatentable over Hiramoto et al. in view of Sato et al. (U.S. Patent Appl. No. 2003/0151851 A1) under 35 U.S.C. § 103(a). The Examiner also asserted that claim 7 is unpatentable over Funayama et al. in view of Sato et al. ('851 A1) under 35 U.S.C. § 103(a).

The Examiner asserted that claims 21 and 22 are unpatentable over Funayama et al. in view of Sasaki et al. and further in view of Hiramoto et al. ('400) and Okada et al. ('503 A1) under 35 U.S.C. § 103(a).

The Examiner asserted that claim 23 is unpatentable over Hiramoto et al. in view of Sasaki et al. and further in view of Osaka et al. (U.S. Patent No. 6,063,512) under 35 U.S.C. § 103(a). The Examiner also asserted that claim 23 is unpatentable over Funayama et al. in view of Sasaki et al. and further in view of Osaka et al. ('512) under 35 U.S.C. § 103(a).

The Examiner asserted that claim 24 is unpatentable over Hiramoto et al. in view of Komuro et al. (U.S. Patent 6,034,847) under 35 U.S.C. § 103(a). The Examiner also asserted that claim 24 is unpatentable over Funayama et al. in view of Komuro et al. ('847).

Applicants respectfully disagree, at least in view of the amendment herein to independent claim 1. Claims 3-5, 7, and 21-24 depend from claim 1.

As amended, claim 1 requires that a stack of fine crystals constitute the columnar crystals. This amendment finds support in the specification in numerous places, including paragraphs [0018], [0080], [0083], [0101], [0145], [0146], and [0150]. As recited in the specification, "it is believed that each columnar crystal is formed by the piling up of microcrystals" during the electroplating process when an appropriate amount of malonic acid is added to the plating bath. None of the references cited by the Examiner discloses a Co-Fe magnetic film comprising columnar crystals which have as constituents *a stack of fine crystals*. Since the cited references, either alone or in

combination, do not teach or suggest each and every element of the claims, a *prima facie* case of obviousness cannot be established.

Applicants therefore respectfully request that the Examiner withdraw the rejections of claims 3-5, 7, and 21-24 under 35 U.S.C. §103(a).

The Examiner asserted that claims 8-9 and 12-19 are unpatentable over Yoshikawa et al. (U.S. Patent 6,132,892) in view of Hitachi, Ltd. (JP 62-226413 A), Hiramoto et al. ('400) and Sato et al. ('851 A1) under 35 U.S.C. § 103(a). The Examiner also asserted that claims 8, 9 and 12-19 are unpatentable over Yoshikawa et al. in view of Hitachi, Ltd. (JP 62-226413 A), Funayama et al. ('982 A1) and Sato et al. ('851 A1) under 35 U.S.C. § 103(a).

The Examiner asserted that claim 20 is unpatentable over Yoshikawa et al. in view of Hitachi, Ltd. (JP 62-226413 A), Hiramoto et al. ('400) and Sato et al. ('851 A1) and further in view of Moran (U.S. Patent 6,574,854 B1) under 35 U.S.C. § 103(a). The Examiner also asserted that claim 20 is unpatentable over Yoshikawa et al. in view of Hitachi, Ltd. (JP 62-226413 A), Funayama et al. ('982 A1) and Sato et al. ('851 A1) and further in view of Moran ('854 B1) under 35 U.S.C. § 103(a).

Applicants respectfully disagree, at least in view of the amendment herein to independent claim 8. Claims 9 and 12-20 depend from claim 8.

As amended, claim 8 requires that a stack of fine crystals constitute the columnar crystals. This amendment finds support in the specification in numerous places, including paragraphs [0018], [0080], [0083], [0101], [0145], [0146], and [0150]. As recited in the specification, "it is believed that each columnar crystal is formed by the piling up of microcrystals" during the electroplating process when an appropriate amount of malonic acid is added to the plating bath. None of the references cited by the Examiner discloses a Co-Fe magnetic film comprising columnar crystals which have as constituents *a stack of fine crystals* as recited by amended claim 8. Since the cited references, either alone or in combination, do not teach or suggest each and every element of the claims, a *prima facie* case of obviousness cannot be established.

Applicants therefore respectfully request that the Examiner withdraw the rejections of claims 8-9 and 12-20 under 35 U.S.C. §103(a).


### **Patentability of New Claim 25**

New claim 25 is dependent on claim 1, which has been amended herein, and for at least the reasons given above is patentable over the prior art.

### **SUMMARY**

Applicants believe that pending claims 1, 3-9, 12-16 and 19-25 are in condition for allowance. The Examiner is invited to contact the undersigned agent for Applicants via telephone if such communication would expedite the allowance of the pending claims.

Respectfully submitted,

  
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